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None

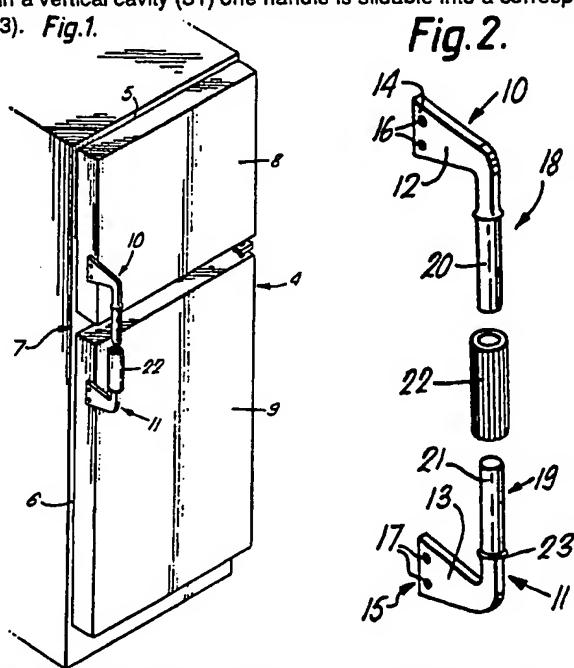
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(54) Handles for doors of refrigerating appliances

(57) Respective handles 10, 11 for doors of a refrigerating appliance (such as a refrigerator having two separate compartments disposed one above the other, which are respectively intended for refrigerating and freezing foods), each comprise a horizontal portion 12, 13 fitted to a corresponding door and a vertical portion 20, 21; the vertical portions 20, 21 are directed towards each other and slightly spaced from each other and there are provided connecting means 22 cooperable with said vertical portions 20, 21 and capable of providing for mutual connection or disconnection of said portions.

In Figure 2 the vertical portions or shanks 20, 21 are interconnectable by a cylindrical sleeve 22 which is slidable vertically.

In the embodiment of Figure 3 a slider (30) in a vertical cavity (31) one handle is slidable into a corresponding cavity (32) in the other handle utilising a push button (33). *Fig.1.*



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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Fig.1.

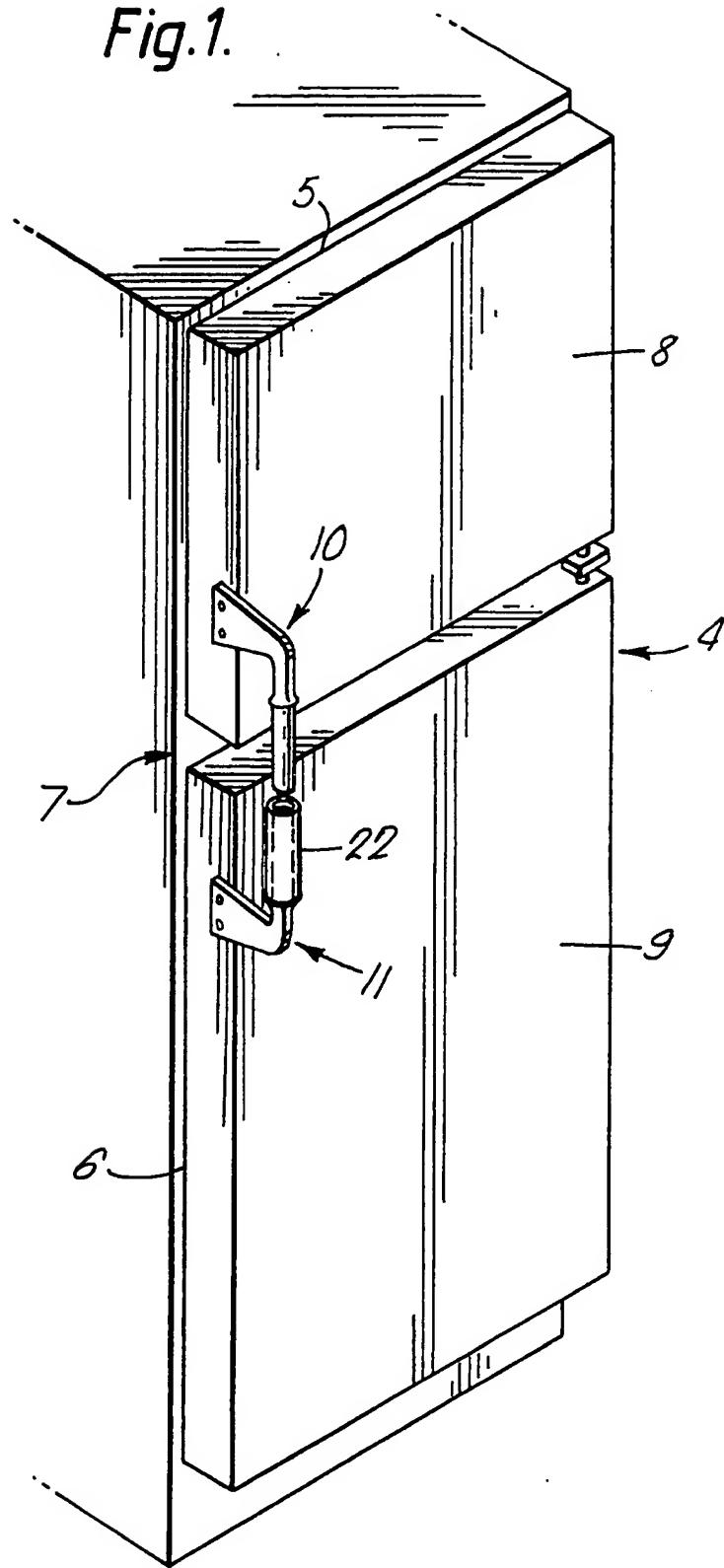


Fig. 2.

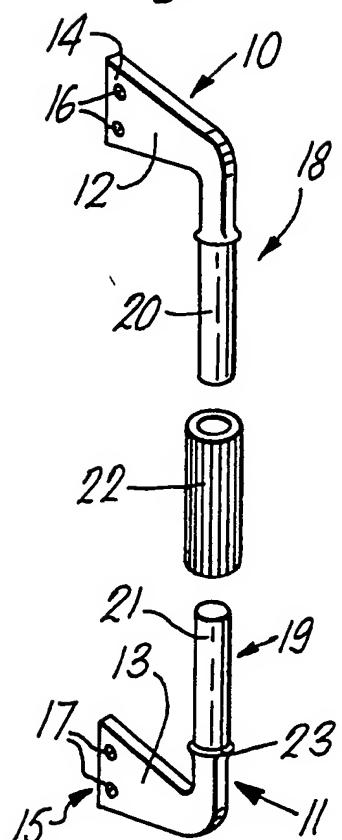
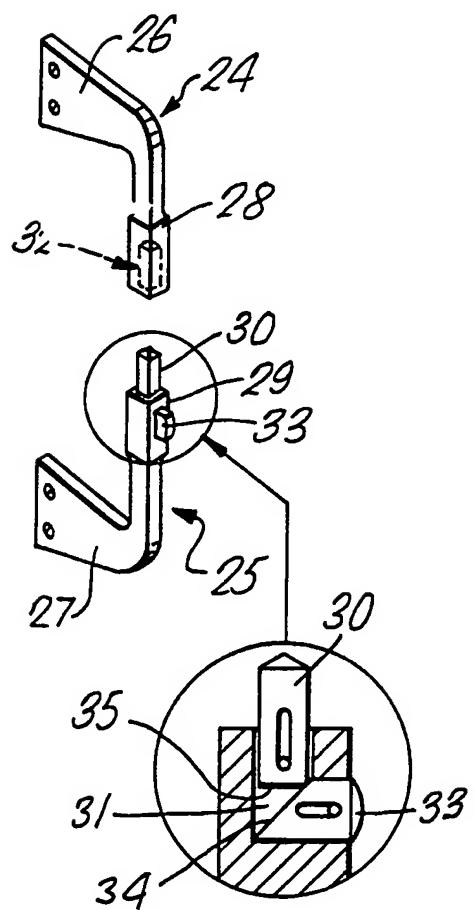


Fig. 3.



HANDLE FOR DOORS OF REFRIGERATING APPLIANCES

The invention relates to a handle for doors of refrigerating appliances, in particular refrigerators with 5 compartments at different temperatures, which is capable of permitting individual or simultaneous actuation of two doors for closing mutually adjacent compartments.

At the present time the doors for closing the compartments of refrigerating appliances having a plurality 10 of separate compartments at different temperatures, such as, for example, refrigerators with two compartments one above the other, which are respectively intended for refrigerating and freezing foods, are provided with corresponding handles which can be individually actuated by the user to provide 15 for opening and closing of each door relative to the associated compartment.

In refrigerating appliances of that kind therefore it is necessary for the two doors of the appliance to be actuated separately whenever the foodstuffs are to be moved 20 from one compartment to the other, as in the situation in which the frozen foods are to be taken from the associated freezing compartment and temporarily put into the refrigerating compartment, prior to consumption thereof.

The aim of the invention is to provide a handle of 25 simple type, which can perform the dual function of permitting separate or simultaneous actuation of two adjacent doors of refrigerating appliances of the above described type, permitting those operations to be carried out in a quick and extremely practical fashion.

According to a first aspect of the present 30 invention, there is provided a handle for adjacent doors of a refrigerating appliance, the handle comprising a mounting portion which can be fitted to a corresponding door for opening and closing the door and a grip portion which is 35 connected at a right angle so as to overlie the panel of the

door and connecting means co-operating with said grip portions and capable of providing for mutual connection or disconnection of said grip portions.

The invention also provides, in a second aspect, a
5 refrigerating appliance having a pair of compartments provided with adjacent doors hinged about a common axis and a door handle according to the first aspect of the invention, the mounting portions of the handle being fitted to respective ones of the doors such that, with the doors
10 closed, the respective grip portions are directed towards and slightly spaced from one another and are interconnectable by said connecting means.

The invention will be further described by way of non-limitative example and with reference to the
15 accompanying drawings in which:

Figure 1 is a diagrammatic perspective view of a refrigerating appliance with two separate compartments, which is provided with a handle according to the invention, and

20 Figures 2 and 3 are diagrammatic exploded perspective views of the handle according to the invention in two different design configurations.

Referring to figure 1, illustrated therein is a refrigerating appliance 4 having a plurality of separate
25 compartments at different temperatures, such as, for example, a conventional refrigerator with two separate compartments 5 and 6 which are disposed one above the other and which are accommodated in a heat-insulated casing 7 extending in a vertical direction, being respectively
30 provided for refrigerating and freezing foods.

The compartments 5 and 6 in particular can be closed by means of corresponding doors 8 and 9 which are hinged to the front part of the casing 7, in the present case at the righthand side thereof. The doors 8 and 9 are
35 provided with corresponding handles 10 and 11 which are

identical and which can be fitted in mutually symmetrical positions to the doors, to provide for opening and closing of each door with respect to the associated compartment.

As can also be seen from figure 2, the handles 10 5 and 11 are provided with a respective horizontal portion 12 and 13 having a corresponding enlarged terminal zone 14 and 15 which is drilled for receiving associated screws 16 and 17 for fixing the handle to the corresponding door 8, 9 at the side thereof.

10 In turn the other terminal zone 18 and 19 of the horizontal portions 12 and 13 is bent at a right angle in such a way as to define a respective vertical cylindrical shank 20, 21 of limited length, which can be gripped by the user, the shanks being directed towards each other in the 15 position of mounting of the associated handles to the doors and also being slightly spaced from each other for reasons set out hereinafter.

Also provided in association with the handle 11 is 20 a cylindrical sleeve 22 which can be fitted onto and slipped over the associated shank 21 of that handle, in such a way as to bear against a flat edge 23 of the handle and to be slightly spaced and aligned with respect to the shank 20 disposed thereabove of the other handle 10.

The cylindrical sleeve 22 in particular is 25 slideable vertically along the shank 21 of the handle 11 and can be displaced into a position associated with the shank 20 of the other handle 10, onto which the sleeve 22 can be slipped with a slight amount of force.

The sleeve in question is also advantageously 30 grooved or roughened at its surface in order to improve engagement thereof on the part of the user during the vertical displacement of the sleeve.

In that way, the presence of the sleeve 22 makes 35 it possible to actuate the two handles 10 and 11 separately or simultaneously and thus to open and close the

corresponding doors 8 and 9 of the refrigerating appliance 4 separately or simultaneously.

The first situation arises by holding the sleeve 22 completely fitted over the shank 21 of the handle 11 5 whereby the latter and the other handle 10 are not interconnected by the sleeve and can therefore be individually gripped by the user for the purposes specified.

The second situation on the other hand arises by moving the sleeve 22 upwardly and threading it partially 10 over the shank 20 of the handle 10, whereby the two handles 10 and 11 are consequently connected together for the purposes described.

Referring now to figure 3, shown therein is a further possible design configuration of the handle 15 according to the invention.

For that purpose, in this case also use is made of two identical handles 24 and 25 which can be mounted in symmetrical positions to the corresponding doors of the refrigerating appliance and which are each provided with a 20 respective horizontal portion 26 and 27 which is bent at a right angle, thus defining a corresponding vertical portion 28, 29 of limited length.

Unlike the previous case however the handles 24 and 25 can be connected together in a different way to 25 provide for simultaneous actuation of the handles and the corresponding doors.

For that purpose the element for connecting the two handles together, instead of being formed by the sleeve 22, as described hereinbefore, but rather by a slider 30 of 30 limited length and of any geometrical shape, being of square section in the illustrated example, the slider being accommodated in a corresponding internal cavity 31 in the associated vertical portion of one of the handles, for example, the handle 25, while being slidable vertically from 35 a retracted position (indicated in fig 3) in which it is not

engaged into a corresponding internal cavity 32 in the associated vertical portion of the other handle, for example, the handle 24, to an extended position in which it is engaged into the above mentioned internal cavity.

5 The slider 30 is advantageously displaced from one position to another by means of a push button 33 which can be operated by the user and which is accommodated in the internal cavity 31 slidably in a horizontal direction at a right angle with respect to the direction of movement of the 10 slider.

The push button 33 in particular is provided with an inclined surface 34 co-operating with the adjacent horizontal end surface 35 of the slider 30, in such a way that, when the push button is not pressed inwardly of the 15 cavity 31, the slider is displaced into a retracted position while however when the push button is pressed into said cavity the slider 30 is displaced into the extended position.

Consequently, in the former case the two handles 20 24 and 25 are not connected to each other and can thus be operated separately, with consequential separate operation of the doors of the refrigerating appliance.

In the second situation on the other hand the two handles 24 and 25 are connected together by virtue of the 25 slider 30 engaging into the cavity 32, whereby they are operated simultaneously, thus providing for simultaneous operation of both the specified doors.

It will be appreciated that, in accordance with the invention, it is also possible to produce the movement 30 of the slider 30 with different devices which interact with the slider 30 in a different manner, or the slider may be replaced by elements which are equivalent thereto and which perform the same function.

Equally, it is also possible for the handles to be 35 shaped and fitted to the associated doors of the

refrigerating appliance in different ways, provided that the handles may or may not be interconnected by means of connecting elements acting in accordance with the above described criteria.

5 Thus each handle designed in that way is of a simple construction which is convenient to use and makes it possible quickly and easily to provide for separate or simultaneous opening and closing of the doors of the refrigerating appliance.

CLAIMS

1. A handle for adjacent doors of a refrigerating appliance, the handle comprising a mounting portion which
5 can be fitted to a corresponding door for opening and closing the door and a grip portion which is connected at a right angle so as to overlie the panel of the door and connecting means co-operating with said grip portions and capable of providing for mutual connection or disconnection
10 of said grip portions.

2. A handle according to claim 1 wherein said connecting means comprise a cylindrical sleeve which can be fitted onto each grip portion which is provided in the form
15 of a corresponding cylindrical shank, said sleeve being slidable along the respective shanks and being displaceable from a first operative position in which it is supported on a corresponding flat edge of the shank of one of the grip portions and disengaged with respect to the shank of the
20 other of the grip portions, to a second operative position in which it is also engaged with the shank of said one of the grip portions.

3. A handle according to claim 1 wherein said connecting means comprise a slider which is accommodated in a corresponding internal cavity in the one of the grip portions and which is slidable towards and away from the other of the grip portions ^{by the} action of a push button which is accommodated within said internal cavity in a direction at a right angle to said slider from a retracted position to an extended position in which said slider is respectively disengaged from and engaged with a corresponding internal cavity in the other of the grip portions.

35 4. A handle according to claim 3 wherein said push

button is provided with an inclined end surface co-operating with the corresponding end surface of said slider.

5. A handle for doors of a refrigerating appliance,
5 the handle being constructed and arranged to operate substantially as hereinbefore described with reference to and as illustrated in figures 1 and 2 or figure 3 of the accompanying drawings.
- 10 6. A refrigerating appliance having a pair of compartments provided with adjacent doors hinged about a common axis and a door handle according to any one of the preceding claims, the mounting portions of the handle being fitted to respective ones of the doors such that, with the
15 doors closed, the respective grip portions are directed towards and slightly spaced from one another and are interconnectable by said connecting means.
- 20 7. An appliance according to claim 6, wherein the doors are hinged about a vertical axis and the doors are located one above the other.
- 25 8. An appliance according to claim 6 or 7 wherein the doors are associated with respective storage compartments in which, in use, items can be cooled to different temperatures.

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